

### REMARKS

Applicants thank the Examiner for the very thorough consideration given the present application. Claims 1-20 are currently pending in this application. No new matter has been added by way of the present amendment. The amendment to claims 1 and 6 is supported by the specification at page 7, lines 10-22, page 11, lines 18-25 and page 12, lines 1-9. Newly added claims 11 and 13 find support at page 11, lines 18-25. Similarly, new claims 12 and 14 are supported by the specification at page 12, lines 3-9. Claims 15 and 16 find support at page 13, line 21 to page 14, line 5. Claims 17 and 18 find support at page 14, lines 6-22. Newly added claim 19 is supported by the specification at page 15, lines 10-11. Claim 20 is supported by page 8, lines 4-8 of the specification. Accordingly, no new matter has been added.

In view of the amendments and remarks herein, Applicants respectfully request that the Examiner withdraw all outstanding rejections and allow the currently pending claims.

### Issues under 35 U.S.C. § 103(a)

#### Claims 1, 2, 5-7 and 10

Claim 1, 2, 5-7 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Vanlerberghe et al. (U.S. 4,371,517) (hereinafter Vanlerberghe '517). This rejection is respectfully traversed.

The Examiner asserts that Vanlerberghe '517 teaches dyeing textiles by applying a dye, a homopolymer of acrylic or methacrylic acid, alkali metal salts and benzyl alcohol. The Examiner acknowledges that Vanlerberghe '517 does not teach all the claimed embodiments in a single

example, but asserts that it would be obvious to one skilled in the art to select these components "absent unexpected results".

Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Additionally, there must be a reason why one of ordinary skill in the art would modify the reference or combine reference teachings to obtain the invention. A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. *KSR Int'l Co. v Teleflex Inc.*, No. 04-1350, slip op. at 11 (U.S. April 30, 2007). There must be a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. *Id.* The Supreme Court of the United States has recently held that the "teaching, suggestion, motivation test" is a valid test for obviousness, albeit one which cannot be too rigidly applied. *Id.* Furthermore, there must be a reasonable expectation of success in making the invention. *In re Vaeck*. Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *KSR Int'l Co. v Teleflex Inc.*.

Independent claims 1 and 6 require that a carboxylic or sulfonic acid group be introduced into a cellulose fiber by an adhesion curing treatment, irradiation or immobilization with a binder. Further, these claims require a step of treating the cellulose fiber having a carboxylic or

sulfonic acid introduced therein with an aromatic derivative and a metal salt. Vanlerberghe '517 does not teach or suggest such a method.

Vanlerberghe '517 merely discloses a composition for washing or dyeing textile fibers. The composition disclosed by Vanlerberghe '517 comprises an anionic polymer, a cationic polymer, an alkali metal salt and a non-ionic surfactant. Vanlerberghe '517 does not teach or suggest a method of coloring a cellulose fiber or producing a colored cellulose fiber, wherein a carboxylic or sulfonic acid group is introduced into a cellulose fiber by an adhesion curing treatment, irradiation or immobilization with a binder and the acid-modified cellulose fiber is subsequently treated with an aromatic derivative and a metal salt.

Furthermore, Applicants respectfully submit that one skilled in the art would not be motivated to modify the teachings of Vanlerberghe '517 in an attempt to arrive at the present invention, absent impermissible hindsight gleaned from Applicants' disclosure.

Additionally, Applicants respectfully submit that the unexpected results obtained by way of the present invention rebut any *prima facie* case of obviousness arguably established by the Examiner.

For purposes of illustration and not limitation, the Examiner's attention is directed to Applicants' Specification at pages 16-19. As evidenced by Applicants' examples and comparative examples, the fibers comprising a carboxylic or sulfonic acid group and treated with an aromatic derivative and a metal salt exhibit excellent color development and superior fastness to light (*see* table I at page 19). In contrast, fibers into which carboxylic or sulfonic acid groups are not introduced or treatment with an aromatic derivative and a metal salt is not conducted exhibited improper color development and inferior fastness to light.

Clearly, the present invention is not obvious over Vanlerberghe '517. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

#### Claims 1, 3-6 and 8-10

Claims 1, 3-6 and 8-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Moeller et al. (WO 01/34106 and its U.S. equivalent, U.S. 6,790,239) (hereinafter Moeller '239). This rejection is respectfully traversed.

The Examiner asserts that Moeller '239 discloses compositions for coloring hair and cellulosic textiles comprising treating the textiles with hydrobenzaldehyde compounds, sulfonic compounds, polyacrylic acids and metal salts. The Examiner acknowledges that Moeller '239 does not teach all the claimed embodiments in a single example, but asserts that it would be obvious to one skilled in the art to select these components "absent unexpected results".

Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness. Moeller '239 does not teach or suggest every limitation of the claimed invention. Moreover, contrary to the Examiner's assertion, one skilled in the art would not be motivated to modify the teachings of Moeller '239 in an attempt to arrive at the present invention.

Moeller '239 discloses a coloring composition and method of coloring keratin-containing fibers, particularly human hair. The composition disclosed by Moeller '239 comprises an aromatic aldehyde or ketone, and a CH-active compound. Moeller '239 does not teach or suggest a method of coloring a cellulose fiber or producing a colored cellulose fiber, wherein a carboxylic or sulfonic acid group is introduced into a cellulose fiber by an adhesion curing

treatment, irradiation or immobilization with a binder and the acid-modified cellulose fiber is subsequently treated with an aromatic derivative and a metal salt.

Furthermore, Applicants respectfully submit that one skilled in the art would not be motivated to modify the teachings of Moeller '239, absent impermissible hindsight gleaned from Applicants' disclosure. Moeller '239 is directed to compositions for coloring human hair. In contrast, the present invention is directed at a method for coloring a cellulose fiber. Human hair and cellulose fibers are not equivalents and exhibit markedly different behavior. Accordingly, one skilled in the art would not be motivated to utilize the hair coloring composition disclosed by Moeller '239 to color cellulose fibers, as presently claimed.

Additionally, as previously discussed, Applicants respectfully submit that the unexpected results obtained by way of the present invention rebut any *prima facie* case of obviousness arguably established by the Examiner. Applicants have discovered that the method of the present invention unexpectedly yields cellulose fibers exhibiting superior color development and fastness to light.

Clearly, the present invention is not obvious over Moeller '239. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

#### Claims 1, 3-6 and 8-10

Claims 1, 3-6 and 8-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Moeller et al. (WO 99/18916 and its U.S. equivalent, U.S. 6,371,993) (hereinafter Moeller '993). This rejection is respectfully traversed.

The Examiner asserts that Moeller '993 discloses compositions for coloring hair and cellulosic textiles comprising treating the textiles with hydrobenzoic acid and sulfonic compounds, polyacrylic acids and metal salts such as iron salts. The Examiner acknowledges that Moeller '993 does not teach all the claimed embodiments in a single example, but asserts that it would be obvious to one skilled in the art to select these components "absent unexpected results".

Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness. Moeller '993 does not teach or suggest every limitation of the claimed invention. Moreover, contrary to the Examiner's assertion, one skilled in the art would not be motivated to modify the teachings of Moeller '993 in an attempt to arrive at the present invention.

Moeller '993 discloses a coloring composition and method of coloring keratin-containing fibers, particularly human hair. The composition disclosed by Moeller '993 comprises onium aldehydes and ketones and derivatives thereof, in combination with at least one compound containing a primary or secondary amino group or hydroxyl group. Moeller '993 does not teach or suggest a method of coloring a cellulose fiber or producing a colored cellulose fiber, wherein a carboxylic or sulfonic acid group is introduced into a cellulose fiber by an adhesion curing treatment, irradiation or immobilization with a binder and the acid-modified cellulose fiber is subsequently treated with an aromatic derivative and a metal salt.

Additionally, as previously discussed, Applicants respectfully submit that the unexpected results obtained by way of the present invention rebut any *prima facie* case of obviousness arguably established by the Examiner. Applicants have discovered that the method of the present

invention unexpectedly yields cellulose fibers exhibiting superior color development and fastness to light.

Clearly, the present invention is not obvious over Moeller '993. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

#### Claims 1, 4-6, 9 and 10

Claims 1, 4-6, 9 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Pai (U.S. 5,516,338) (hereinafter Pai '338). Applicants respectfully traverse.

Applicants initially note that the Examiner has not cited Pai '338 in Form PTO-892. Applicants respectfully request that this reference be made of record in the next Office Action.

As to the outstanding rejection, the Examiner asserts that Pai '338 teaches dyeing textiles with basic dyes after the cotton has been treated with a sulfonic group containing resist agent, and treating the cotton with tannic and ferric salts. The Examiner acknowledges that Pai '338 does not teach all the claimed embodiments in a single example, but asserts that it would be obvious to one skilled in the art to select these components "absent unexpected results".

Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness. Pai '338 does not teach or suggest every limitation of the claimed invention. Moreover, contrary to the Examiner's assertion, one skilled in the art would not be motivated to modify the teachings of Pai '338 in an attempt to arrive at the present invention.

Pai '338 is directed to a water-soluble dye and a method of dyeing a textile with a composition comprising a water-soluble titanium salt, a tannin substance and water. Pai '338, however, does not teach or suggest a method of coloring a cellulose fiber or producing a colored

cellulose fiber, wherein a carboxylic or sulfonic acid group is introduced into a cellulose fiber by an adhesion curing treatment, irradiation or immobilization with a binder and the acid-modified cellulose fiber is subsequently treated with an aromatic derivative and a metal salt.

Furthermore, Applicants respectfully submit that the unexpected results obtained by way of the present invention rebut any *prima facie* case of obviousness arguably established by the Examiner. Applicants have discovered that the method of the present invention unexpectedly yields cellulose fibers exhibiting superior color development and fastness to light.

Clearly, the present invention is not obvious over Pai '338. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

### Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the examiner reconsider all presently outstanding rejections and objections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding office action and, as such, the present application is in condition for allowance.

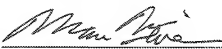
Should there be any outstanding matters that need to be resolved in the present application, the examiner is respectfully requested to contact Marc S. Weiner, Reg. No. 32,181 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.



If necessary, the commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to deposit account no. 02-2448 for any additional fees required under 37.c.f.r. §§1.16 or 1.14; particularly, extension of time fees.

Dated: JUN 13 2007

Respectfully submitted,

By:   
Marc S. Weiner  
Registration No.: 32,181  
BIRCH, STEWART, KOLASCH & BIRCH, LLP  
8110 Gatehouse Road  
Suite 100 East  
P.O. Box 747  
Falls Church, Virginia 22040-0747  
(703) 205-8000  
Attorney for Applicant